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LANIER FORD SHAVER & PAYNE
P O BOX 2087
HUNTSVILLE, AL 35804

EXAMINER	
LIN, TINA M	

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary	Application No.	Applicant(s)	
	10/730,460	ARELLANO, AARON G.	
	Examiner	Art Unit	
	Tina M. Lin	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-31 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-31 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 08 December 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3/19/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,567,600 to Yoshida.

In regards to claim 1, Yoshida discloses a substrate (1) comprising heating elements (2a, 2b) for maintaining the circuit at a constant temperature. (Figure 4, Column 3) Yoshida further discloses an optical fiber (3) secured to the substrate. But Yoshida fails to disclose the length of the optical fiber to be pre-fabricated. However, although Yoshida does not specifically disclose a length of pre-fabricated optical fiber, Yoshida would need to decide a length of fiber to be formed on the substrate. Furthermore, although Yoshida does not specifically disclose a pre-fabricated fiber, Yoshida does disclose the fiber to be secured to the substrate and therefore must be pre-fabricated in order to be secured to the substrate. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a length of pre-fabricated optical fiber. Yoshida further fails to specifically disclose the substrate to be partially flexible. However, Yoshida does disclose the substrate to comprise two sheet films. By definition, a film is "a thin, flexible, transparent sheet." (*The American Heritage® Dictionary of the English Language, Fourth Edition*) Therefore, although Yoshida does not explicitly state the substrate to be flexible, by definition, a sheet film is a flexible material.

Furthermore, the term partially is a relative term meaning "to a degree." (*The American Heritage® Dictionary of the English Language, Fourth Edition*) Since Yoshida states the substrate is flexible, the substrate must to flexible to a degree. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a partially flexible substrate.

In regards to claims 2-5, Yoshida discloses all discussed above and further discloses the substrate to comprise a thermister temperature sensor (4). But Yoshida fails to disclose more than one temperature sensor. Yoshida further states that the fiber has portions that are untouched on and therefore cannot be monitored or controlled by the one temperature sensor. So, if Yoshida included an additional sensor, the fiber can be more adequately monitored and controlled. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used more than one temperature sensor, since it has been held that the mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.* Yoshida further fails to disclose the temperature sensor to be either a thermocouple or a resistance temperature detector. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used either a thermister, a thermocouple or a resistance temperature detector, since applicant has not disclosed that any specific temperature sensor solves any stated problem or is for any particular purpose and it appears the invention would perform equally as well with any temperature sensor.

In regards to claim 6, Yoshida discloses a substrate (1) comprising heating elements (2a, 2b) for maintaining the circuit at a constant temperature. (Figure 4, Column 3) Yoshida further

discloses an optical fiber (3) secured to the substrate. But Yoshida fails to disclose the length of the optical fiber to be pre-fabricated. However, although Yoshida does not specifically disclose a length of pre-fabricated optical fiber, Yoshida would need to decide a length of fiber to be formed on the substrate. Furthermore, although Yoshida does not specifically disclose a pre-fabricated fiber, Yoshida does disclose the fiber to be secured to the substrate and therefore must be pre-fabricated in order to be secured to the substrate. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a length of pre-fabricated optical fiber. Yoshida further fails to specifically disclose the substrate to be partially flexible. However, Yoshida does disclose the substrate to comprise two sheet films (5). By definition, a film is "a thin, flexible, transparent sheet." (*The American Heritage® Dictionary of the English Language, Fourth Edition*) Therefore, although Yoshida does not explicitly state the substrate to be flexible, by definition, a sheet film is a flexible material. Furthermore, the term partially is a relative term meaning "to a degree." (*The American Heritage® Dictionary of the English Language, Fourth Edition*) Since Yoshida states the substrate is flexible, the substrate must to flexible to a degree. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a partially flexible substrate.

In regards to claims 7-9, Yoshida discloses all discussed above but fails to disclose more than one prefabricated optical fiber secured to the surfaces of the substrate. However, Yoshida does disclose a reel that the fiber is wound on. Although Yoshida does not specifically state there is more than one fiber on the reel, more than one fiber can be wound on the reel. Furthermore, the reel is secured to the two surfaces (5) of the substrate. Therefore, it would have

been obvious at the time the invention was made to a person having ordinary skill in the art to have more than one prefabricated fiber secured the surfaces of the substrate.

In regards to claim 10, Yoshida discloses all discussed above but fails to specifically disclose the temperature sensor embedded within the heating element. However, Yoshida does state the temperature sensor is arranged on one of the sheet films, which used to sandwich the optical fiber in order to form a substrate. Furthermore, the heating elements then sandwich the optical fiber sheets/substrate. Therefore, the temperature sensor is sandwiched within the heating elements.

In regards to claims 11-13, Yoshida discloses all discussed above but fails to disclose more than one prefabricated optical fiber secured to the surfaces of the substrate. However, Yoshida does disclose a reel that the fiber is wound on. Although Yoshida does not specifically state there is more than one fiber on the reel, more than one fiber can be wound on the reel. Furthermore, the reel is secured to the two surfaces (5) of the substrate. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have more than one prefabricated fiber secured the surfaces of the substrate.

In regards to claim 14, Yoshida discloses a heater circuit (1and an optical fiber (3) secured to the circuit. But Yoshida fails to disclose the length of the optical fiber to be pre-fabricated. However, although Yoshida does not specifically disclose a length of pre-fabricated optical fiber, Yoshida would need to decide a length of fiber to be formed on the circuit. Furthermore, although Yoshida does not specifically disclose a pre-fabricated fiber, Yoshida does disclose the fiber to be secured to the circuit and therefore must be pre-fabricated in order to be secured to the circuit. Therefore, it would have been obvious at the time the invention was

made to a person having ordinary skill in the art to have used a length of pre-fabricated optical fiber. Yoshida further fails to specifically disclose the substrate to be partially flexible. However, Yoshida does disclose the substrate to comprise two sheet films. By definition, a film is "a thin, flexible, transparent sheet." (*The American Heritage® Dictionary of the English Language, Fourth Edition*) Therefore, although Yoshida does not explicitly state the substrate to be flexible, by definition, a sheet film is a flexible material. Furthermore, the term partially is a relative term meaning "to a degree." (*The American Heritage® Dictionary of the English Language, Fourth Edition*) Since Yoshida states the substrate is flexible, the substrate must to flexible to a degree. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a partially flexible substrate.

In regards to claims 15 and 16, Yoshida discloses all discussed above but fails to disclose more than one prefabricated optical fiber secured to the surfaces of the circuit. However, Yoshida does disclose a reel that the fiber is wound on. Although Yoshida does not specifically state there is more than one fiber on the reel, more than one fiber can be wound on the reel. Furthermore, the reel is secured to the two surfaces (5) of the circuit. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have more than one prefabricated fiber secured the surfaces of the circuit.

In regards to claim 17, Yoshida discloses all discussed above and further discloses the circuit to comprise a thermister temperature sensor (4). But Yoshida fails to disclose more than one temperature sensor. Yoshida further states that the fiber has portions that are untouched on and therefore cannot be monitored or controlled by the one temperature sensor. So, if Yoshida included an additional sensor, the fiber can be more adequately monitored and controlled.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used more than one temperature sensor, since it has been held that the mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.*

In regards to claims 18-20, Yoshida discloses all discussed above but fails to disclose more than one prefabricated optical fiber secured to the surfaces of the circuit. However, Yoshida does disclose a reel that the fiber is wound on. Although Yoshida does not specifically state there is more than one fiber on the reel, more than one fiber can be wound on the reel. Furthermore, the reel is secured to the two surfaces (5) of the circuit. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have more than one prefabricated fiber secured the surfaces of the circuit.

In regards to claim 21, providing a substrate with a heater circuit, obtaining an optical fiber and securing the fiber to the substrate. But Yoshida fails to disclose the length of the optical fiber to be pre-fabricated. However, although Yoshida does not specifically disclose a length of pre-fabricated optical fiber, Yoshida would need to decide a length of fiber to be formed on the circuit. Furthermore, although Yoshida does not specifically disclose a pre-fabricated fiber, Yoshida does disclose the fiber to be secured to the circuit and therefore must be pre-fabricated in order to be secured to the circuit. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a length of pre-fabricated optical fiber. Yoshida further fails to specifically disclose the substrate to be partially flexible. However, Yoshida does disclose the substrate to comprise two sheet films. By definition, a film is "a thin, flexible, transparent sheet." (*The American Heritage® Dictionary of*

the English Language, Fourth Edition) Therefore, although Yoshida does not explicitly state the substrate to be flexible, by definition, a sheet film is a flexible material. Furthermore, the term partially is a relative term meaning "to a degree." (*The American Heritage® Dictionary of the English Language, Fourth Edition*) Since Yoshida states the substrate is flexible, the substrate must to flexible to a degree. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a partially flexible substrate.

In regards to claims 22-25, Yoshida discloses all discussed above and further discloses the substrate to comprise a temperature sensor (4). But Yoshida fails to disclose the temperature sensor to be either a thermocouple or a resistance temperature detector. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used either a thermister, a thermocouple or a resistance temperature detector, since applicant has not disclosed that any specific temperature sensor solves any stated problem or is for any particular purpose and it appears the invention would perform equally as well with any temperature sensor.

In regards to claims 26-27, Yoshida discloses all discussed above but fails to disclose more than one prefabricated optical fiber secured to the surfaces of the substrate. However, Yoshida does disclose a reel that the fiber is wound on. Although Yoshida does not specifically state there is more than one fiber on the reel, more than one fiber can be wound on the reel. Furthermore, the reel is secured to the two surfaces (5) of the substrate. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have more than one prefabricated fiber secured the surfaces of the substrate.

In regards to claims 28-31, Yoshida discloses all discussed above and further discloses the substrate to comprise a temperature sensor (4). But Yoshida fails to disclose the temperature sensor to be either a thermocouple or a resistance temperature detector. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used either a thermister, a thermocouple or a resistance temperature detector, since applicant has not disclosed that any specific temperature sensor solves any stated problem or is for any particular purpose and it appears the invention would perform equally as well with any temperature sensor.

The documents submitted by applicant in the Information Disclosure Statement have been considered and made of record. Note attached copy of form PTO-1449.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reference B discusses a flexible disc apparatus. References C and D disclose flexible substrates including a temperature sensor, however, References C and D are electrical apparatuses. Reference E is not prior art, however, is pertinent art. Reference E discloses a heating module with a flexible substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Lin whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TML

John D. Lee
Primary Examiner